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101 -- ~~101~~ <sup>99</sup> (New) A nucleic acid probe which (a) is at least 15 nucleotides in length and (b) hybridizes specifically to a nucleic acid having a sequence complementary to the DNA sequence set forth in SEQ ID No. 1.--

102 -- ~~102~~ <sup>100</sup> (New) The nucleic acid probe of claim 100 or 101, wherein the nucleic acid probe is DNA.--

103 -- ~~103~~ <sup>101</sup> (New) The nucleic acid probe of claim 100 or 101, wherein the nucleic acid probe is RNA.--

104 -- ~~104~~ <sup>102</sup> (New) The nucleic acid probe of claim 100 or 101, wherein the nucleic acid probe is labeled with a detectable marker.--

105 -- ~~105~~ <sup>103</sup> (New) The nucleic acid probe of claim 104, wherein the detectable marker is a radioactive label or fluorescent label.--

11 106 -- ~~106~~ <sup>104</sup> (New) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide comprising within its structure consecutive amino acids having the sequence Asp-Glu-Leu-Lys-Ala-Glu (SEQ ID NO: 35).--

107 -- ~~107~~ <sup>105</sup> (New) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide comprising within its structure consecutive amino acids having the sequence Asn-Glu-Asp-Gly-Asn-Glu (SEQ ID NO: 36).--

108 -- ~~108~~ <sup>106</sup> (New) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide comprising within its structure consecutive amino acids having the sequence Lys-Ser-Pro-Asp-Glu-Gly (SEQ ID NO: 37).--

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109 ~~107~~  
--109.

(New) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide comprising within its structure consecutive amino acids having the sequence Ala-Gly-Ala-Leu-Val-Leu-Ala-Gly-Gly-Phe-Phe-Leu-Leu-Gly-Phe-Leu-Phe (SEQ ID NO:38).--

110 ~~108~~  
--110.

(New) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide having within its structure consecutive amino acids having the following sequences:

- (a) Asp-Glu-Leu-Lys-Ala-Glu (SEQ ID NO: 35);
- (b) Asn-Glu-Asp-Gly-Asn-Glu (SEQ ID NO: 36); and
- (c) Lys-Ser-Pro-Asp-Glu-Gly (SEQ ID NO: 37).--

F<sub>1</sub> 111 ~~109~~  
--111.

(New) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide having within its structure consecutive amino acids having the following sequences:

- (a) Asp-Glu-Leu-Lys-Ala-Glu (SEQ ID NO: 35);
- (b) Asn-Glu-Asp-Gly-Asn-Glu (SEQ ID NO: 36);
- (c) Lys-Ser-Pro-Asp-Glu-Gly (SEQ ID NO: 37); and
- (d) Ala-Gly-Ala-Leu-Val-Leu-Ala-Gly-Gly-Phe-Phe-Leu-Leu-Gly-Phe-Leu-Phe (SEQ ID NO:38).--

112 ~~110~~  
--112.

(New) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide having within its structure consecutive amino acids having the sequence set forth in SEQ ID NO: 2.--

113 ~~111~~  
--113.

(New) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide comprising consecutive amino acids, the sequence of which corresponds to the sequence of an outside region of

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prostate specific membrane antigen.--

114 ~~112~~  
--114. (New) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide consisting essentially of consecutive amino acids, the sequence of which corresponds to the sequence of the outside region of prostate specific membrane antigen and comprises the following sequences:

- (a) Asp-Glu-Leu-Lys-Ala-Glu (SEQ ID NO: 35);  
(b) Asn-Glu-Asp-Gly-Asn-Glu (SEQ ID NO: 36); and  
(c) Lys-Ser-Pro-Asp-Glu-Gly (SEQ ID NO: 37).--

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Q1 ~~115~~  
--115. (New) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide consisting essentially of a fragment of prostate specific membrane antigen, which fragment has a sequence which is the same as the sequence of the antigenic outside region of prostate specific membrane antigen and comprises the following sequences:

- (a) Asp-Glu-Leu-Lys-Ala-Glu (SEQ ID NO: 35);  
(b) Asn-Glu-Asp-Gly-Asn-Glu (SEQ ID NO: 36); and  
(c) Lys-Ser-Pro-Asp-Glu-Gly (SEQ ID NO: 37).--

F1 ~~114~~  
--116. (New) An isolated nucleic acid having within its structure at least 15 consecutive nucleotides having a sequence which is present in the sequence set forth in SEQ ID NO:1 and encoding a fragment of prostate specific membrane antigen.--  
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~~115~~  
--117. (New) An isolated nucleic acid having within its structure at least 15 consecutive nucleotides having a sequence which is complementary to a sequence present in the sequence set forth in SEQ ID NO:1.--  
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~~118.~~ 118 (New) The isolated nucleic acid of claim 116, wherein the isolated nucleic acid encodes an antigenic domain of prostate specific membrane antigen.--

~~119.~~ 119 (New) The isolated nucleic acid of claim 116, wherein the isolated nucleic acid encodes a fragment of prostate specific membrane antigen, which fragment has a sequence which is the same as the sequence of the antigenic outside region of prostate specific membrane antigen.--

~~120.~~ 120 (New) An isolated nucleic acid which encodes an antigenic fragment of prostate specific membrane antigen, which fragment has a sequence which is the same as the sequence of the outside region of prostate specific membrane antigen.--

~~121.~~ 121 (New) An isolated nucleic acid which is at least 15 nucleotides in length and specifically hybridizes to the nucleic acid of any one of claims 106-115.--

~~122.~~ 122 (New) A vector which comprises the isolated nucleic acid of any one of claims 106-115.--

~~123.~~ 123 (New) The vector of claim 122, wherein the vector is a plasmid.--

~~124.~~ 124 (New) A host vector system for the production of a polypeptide which comprises the vector of claim 122 and a suitable host cell.--

~~125.~~ 125 (New) The host vector system of claim 124, wherein the suitable host cell is a bacterial cell, insect cell, or mammalian cell.--